

APPROVED FOR  
RELEASE  
DATE: MAR 2007

(CLASSIFICATION)

Executive Registry

63-381612

# OFFICE OF THE DIRECTOR

Action Memorandum No. A-248

Date 8 May 1963

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(b)(3)

TO : Deputy Director/Research  
Assistant Director for Scientific Intelligence  
Att: Dr. Chamberlain  
VIA : Deputy Director/Intelligence  
SUBJECT : NSAM No. 241

## REFERENCE:

1. Attached is National Security Action Memorandum No. 241 which forwards a report on French Gaseous Diffusion Plant with the request that the President would like to have prepared immediately a report and an appraisal of this project by the DCI together with the Chairman of the Atomic Energy Commission.

2. Also attached is a brief memorandum for the DDCI from the Director giving his views on this. Will you jointly assume the responsibility for preparing the requested report together with AEC as a matter of urgency. It is requested that this report be in the DCI's office not later than 10 May.

Lyman B. Kirkpatrick  
Executive Director

## Attachments a/s

LBK:drm

Distribution: 1 - DD/R w/atts.  
1 - DD/I *all memo only*  
1 - AD/SI Att. Dr. Chamberlain via DD/I w/atts.  
1 - DCI; 1 - DDCI; 1 - ER; 1 - ExDir

SUSPENSE DATE: 10 May 1963

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ER 63-3816/1

8 May 1963

MEMORANDUM FOR: General Carter

Suggest we put in motion promptly.

This is not a new story as I estimated a cost of \$750 million to \$1 billion in April 1960 after going over the French pilot plant at Saclay. The 1966 or 1967 date was included in the recent National Estimate and also in my testimony to the Joint Committee on Atomic Energy.

The French request for German aid probably includes the centrifuge which the Germans have developed and which the AEC knows all about. I know of no competence among the Italians in this field. I also know of no work by Germans on the gaseous diffusion process. However, they could help on materials, mechanical items, seals, etc. I believe we should put in motion before Seaborg leaves for the USSR. Although this is a JAEIC problem, I believe Pete Scoville knows more of the background than any one else.

It is important to note

(1) Protocol to the Brussels treaty forecloses Germany in the field of nuclear arms and perhaps research of this nature (I am not sure about this point), and

(2) Germany agreed in 1960 to classify their centrifuge work. AEC worked out this agreement.

JOHN A. McCONE  
Director

(Typed from DCI notes)

Attachment: NSAM #241

Distribution:

O & 2 - addressee

1 - ER

1 - DCI chrono

1 - DCI #5 file w/cy attch.

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TS 184369/c

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DCI/HK

AE

10 May 1963

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Action Memorandum A-240  
NSAM No. 241

1. Attached is a report by the Office of Scientific Intelligence in response to NSAM 241 on the French gaseous diffusion project. [REDACTED]

2. With the exception of the final paragraph, this paper has been coordinated with the General Manager of the AEC. The report was prepared jointly by OSI, ORR, OCI, and ONE, and was coordinated with DD/R.

3. The final paragraph of the report consists of an estimate by ONE of the probability of German participation in the French program. While AEC representatives have seen this paragraph, we have been unable to secure their formal concurrence in time to meet the deadline on the paper.

[REDACTED]

HUNTINGTON D. SHELDON  
Acting Deputy Director (Intelligence)

Attachments

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10 MAY 1963

## REPORT ON FRENCH GASEOUS DIFFUSION PROJECT

1. The French announced in 1958 their intention to build a gaseous diffusion plant at Pierrelatte, in the Rhone Valley in southern France. At that time, they proposed having this plant in operation, producing low enriched material by 1962 and fully enriched material in 1963. Estimates at that time, based on opinions of U.S. scientists who saw the pilot facilities at Saclay and upon information provided by the French, were that production of low enriched material could begin at 1962 with a production of 4 Kg/day of fully enriched U-235 in 1963 and capacity production of 10 Kg/day in 1964. Technical difficulties in producing adequate compressor seals and unforeseen difficulties in barrier development and production have delayed this plant until it is now estimated that top-product will not become available until 1967. This date of availability has recently been confirmed by Pierre Messmer, the French Minister of Armed Forces.

2. The 1957-58 French estimate of the total cost for Pierrelatte was \$120 million. However, by March 1963 this estimate had risen to \$1 billion, not including the cost of the high enrichment section of Pierrelatte, without which no weapon grade U-235 can be produced. If the cost of this portion of the plant bears the same relationship to the total as in previous estimates, the total cost of Pierrelatte would be approximately \$1.2 billion about 10 times the original estimate. During budget debates in the fall of 1962, the situation was officially summarized as follows:

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"Pierrelatte exists. It is a large undertaking, and it is necessary to seek a means of rendering the costs bearable." This sentiment undoubtedly is one of the causes of French exploration of possible German and/or Italian financial and technical assistance in completing Pierrelatte.

3. There have been numerous reports concerning possible Franco-German, and more recently Franco-Italian, technical and financial cooperation in areas associated with nuclear weapons. Although monetary contributions would certainly be helpful, technical assistance may be of more immediate benefit. The West Germans have considerable experience in industrial seal research and development which could be used effectively to help solve the problem of adequate compressor seals for use in the Pierrelatte plant. German scientists have no major backlog of experience in gaseous diffusion separation of U-235. However, their general research capabilities and ample numbers of technical personnel could, if so applied, become a significant factor in the solution to other technical problems encountered at Pierrelatte, including development and fabrication of satisfactory barriers. The use of ultracentrifuges at Pierrelatte is not anticipated, since the French are already committed to the gaseous diffusion process. The Germans are in a good position to provide assistance in the ultracentrifuge field should the French seek it. However, German ultracentrifuge developments have lost impetus since their program was classified, and they would probably require two years or more of priority development effort to achieve an economically practical technology.

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4. Protocol to the Brussels treaty imposes no prohibition on West Germany other than that no atomic weapons or associated weapons materials may be manufactured on German territory. This does not preclude the possibility of German assistance, financial or technical, to non-German nuclear weapons programs nor of their obtaining nuclear weapons from such sources.

5. In conclusion, from the evidence available we believe that French officials have in fact broached the subject of aid for Pierrelatte with the West Germans and possible Italians. We do not know the precise terms of the French requests, the amounts of aid requested, or the quid pro quo being offered by France. Paris at present will probably not offer Germany any meaningful degree of control or partnership in the French nuclear program. The Germans, particularly if pressed by the U.S. to avoid entanglement in the French program, will probably not provide aid unless they are given some control. In the longer run, however, despite the prospect for a post-Adenauer government less closely in tune with the present French leadership, stronger pressures for French-West German cooperation on military applications of nuclear energy are likely to develop. As the costs of the French program continue to mount, the French may become more willing to give up a modicum of control in order to get aid. The Germans, for their part, may come increasingly to regard participation in the French program as a way to get around the treaty restrictions mentioned above, and as a way for German industry to improve its position in the nuclear technological race.

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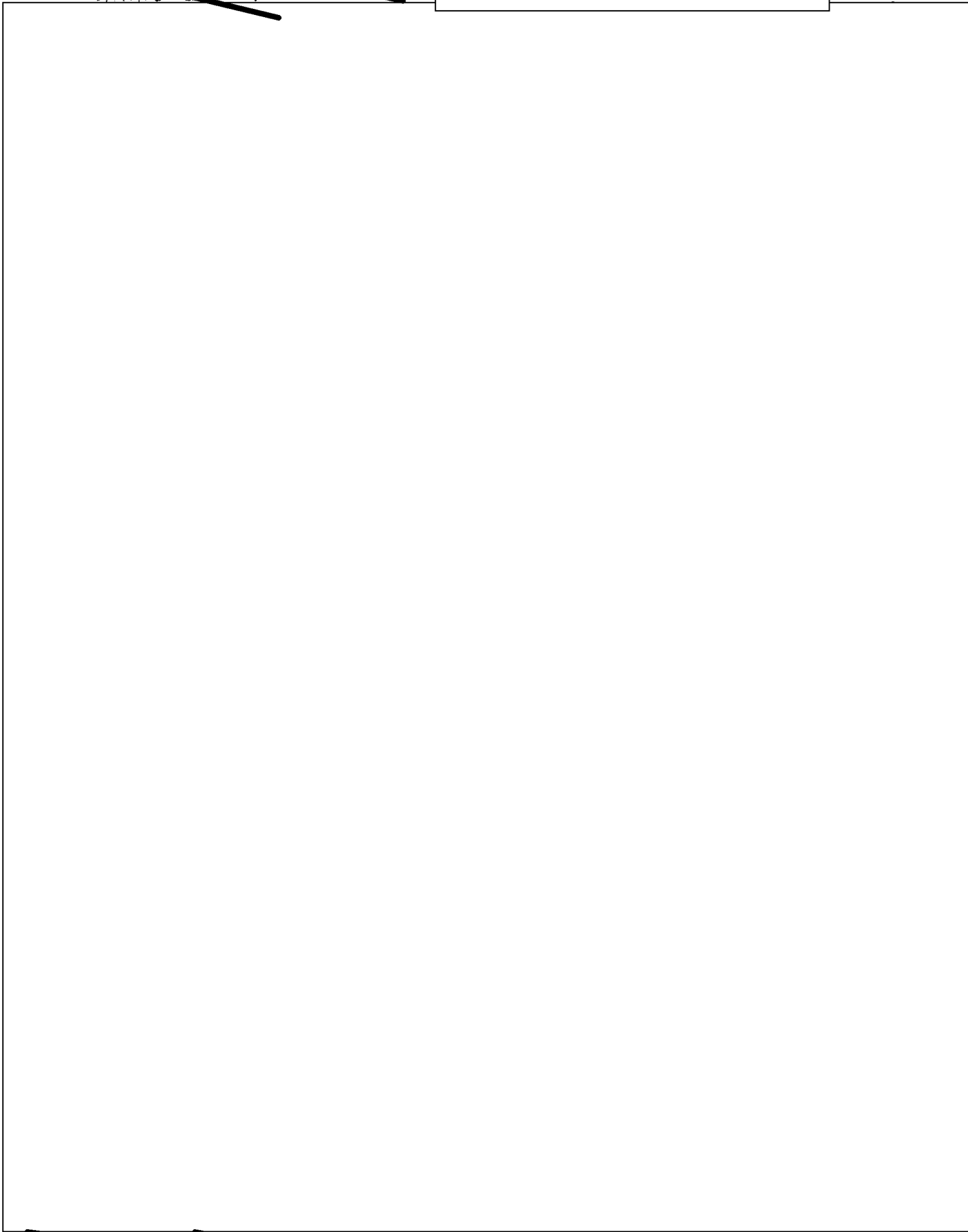
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